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09/864,825	05/24/2001	Paul V. Werme	NC 83017	2372
23501	7590	07/02/2004	EXAMINER	
JAMES B BECHTEL, ESQ NAVAL SURFACE WARFARE CENTER CODE CD222 17320 DAHLGREN ROAD, BLDG. 183, RM. 015 DAHLGREN, VA 224485100			TANG, KENNETH	
			ART UNIT	PAPER NUMBER
			2127	

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/864,825

Applicant(s)

WERME ET AL.

Examiner

Kenneth Tang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-36 are presented for examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention:

- a. In claim 1, "resource management device" is indefinite because it is not made explicitly clear in the claim language whether this device is in the host or not. And if it is located in the host, it is not made clear which host.
- b. Claim 1 recites the limitation "first information" in line 3. There is insufficient antecedent basis for this limitation in the claim.
- c. Claim 1 recites the limitation "second information" in line 4. There is insufficient antecedent basis for this limitation in the claim.
- d. In claim 2, "resource management device" is indefinite because it is not made explicitly clear in the claim language whether this device is in the host or not. And if it is located in the host, it is not made clear which host.
- e. In claim 2, "managed characteristic application" is indefinite because it is not made explicitly clear in the claim language who manages the characteristic application – whether it is managed by the resource management device or by something else, for

example. In addition, the term is not defined in the claim language and the definition is not made clear. Is this term an instance of a characteristic of an application, or an actual application?

f. In claim 2, "which one of starts up" is indefinite because it is grammatically incorrect and does not make any sense.

g. In claim 2, "additional copy" is indefinite because a first copy was never introduced so it is not made clear in the claim language why there is an additional copy.

h. In claim 2, "one of the host" is indefinite because it is grammatically incorrect and does not make any sense. In addition, only one host was introduced prior and the term implies that one host is being selected from a plurality of hosts.

i. In claim 2, "all applications" is indefinite because only one application was introduced prior.

j. Claim 2 recites the limitation "first information" in line 5. There is insufficient antecedent basis for this limitation in the claim.

k. Claim 2 recites the limitation "second information" in line 6. There is insufficient antecedent basis for this limitation in the claim.

l. In claim 8, "resource management device" is indefinite because it is not made explicitly clear in the claim language whether this device is in the host or not. And if it is located in the host, it is not made clear which host.

m. In claim 8, "managed characteristic application" is indefinite because it is not made explicitly clear in the claim language who manages the characteristic application – whether it is managed by the resource management device or by something else, for

example. In addition, the term is not defined in the claim language and the definition is not made clear. Is this term an instance of a characteristic of an application, or an actual application?

n. Claim 8 recites the limitation "first information" in line 6. There is insufficient antecedent basis for this limitation in the claim.

o. Claim 8 recites the limitation "second information" in line 7. There is insufficient antecedent basis for this limitation in the claim.

p. Claim 8 recites the limitation "control configuration " in line 2. There is insufficient antecedent basis for this limitation in the claim.

q. In claim 16, "managed characteristic application" is indefinite because it is not made explicitly clear in the claim language who manages the characteristic application – whether it is managed by the resource management device or by something else, for example. In addition, the term is not defined in the claim language and the definition is not made clear. Is this term an instance of a characteristic of an application, or an actual application?

r. In claim 16, "N" and "M" are indefinite because it is not made explicitly clear in the claim language whether these are variables or whether they present static numbers or whether these are integer values, or whether N is a value that is different than M or not, etc.

s. Claim 16 recites the limitation "the state and health" in line 4. There is insufficient antecedent basis for this limitation in the claim.

t. Claim 16 recites the limitation "Quality of Service (QoS) " in line 8. There is insufficient antecedent basis for this limitation in the claim.

u. In claim 16, the term "Quality of Service (QoS) is indefinite because it is not made explicitly clear in the claim language the requirements involving this term.

v. As to claim 18, there are two different claims for claim 18 (see page 5 and 6). It is not known which of the two claims represents claim 18.

w. In claim 26, "N" and "M" are indefinite because it is not made explicitly clear in the claim language whether these integers are variables or whether they present static numbers or whether these are integer values, or whether N is a value that is different than M or not, etc.

x. In claim 26, "managed characteristic application" is indefinite because it is not made explicitly clear in the claim language who manages the characteristic application – whether it is managed by the resource management device or by something else, for example. In addition, the term is not defined in the claim language and the definition is not made clear. Is this term an instance of a characteristic of an application, or an actual application?

y. Claim 26 recites the limitation "the state and health" in line 8. There is insufficient antecedent basis for this limitation in the claim.

z. Claim 26 recites the limitation "Quality of Service (QoS) " in line 12. There is insufficient antecedent basis for this limitation in the claim.

aa. In claim 26, the term "Quality of Service (QoS) in line 12 is indefinite because it is not made explicitly clear in the claim language the requirements involving this term.

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bb. Claim 26 recites the limitation "Quality of Service (QoS) " in line 12. There is insufficient antecedent basis for this limitation in the claim.

cc. The term "general-purpose" in claim 26 is a relative term which renders the claim indefinite. The term "general-purpose" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

dd. Claim 35 recites the limitation "Program Control" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 16-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhattal et al. (hereinafter Bhattal) (US 20020064126) in view of Du et al. (hereinafter Du) (US 6,041,306).

4. As to claim 1, Bhattal teaches in a distributed environment comprised of hosts instantiating copies of an application, a resource management device generating signals which

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start up, shutdown or move a selected one of the copies responsive to first information regarding performance of all copies of the application and second information regarding performance of the hosts ([0014]-[0016]). Bhattal fails to explicitly teach the application being scalable.

However, Du teaches a scalable computing system being an advantageous feature (*col. 5, lines 16-34*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of scalable applications to the existing system of Bhattal because of the advantages described above.

5. As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 8. In addition, Bhattal fails to explicitly teach having states to represent the health of the hosts and that the actions need to maintain Quality of Service (QoS) requirements, and that . However, Du teaches using managers and state machines that contains states of every condition and determines the state and health based on the conditions automatically (*col. 6, lines 65-67 through col. 7, lines 1-15 and col. 12, lines 31-47 and col. 10, line 3*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of using managers and state machines that contains states of every condition and determines the state and health based on the conditions because they increase the integrity of the system by being able to know when a “unhealthy” state (or state that is considered below requirements) occurs. In addition, Du teaches using QoS requirements for the applications (*col. 11, lines 16-18*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of QoS requirements for the applications in order to maintain or increase the integrity of the system.

6. As to claim 17, Bhattal teaches the software wherein the first function receives system specification information comprising selected ones of host configuration and capabilities, application capabilities, survivability requirements, scalability characteristics, application startup and shutdown dependencies, and application and path performance requirements ([0067]).

7. As to claim 18, Bhattal teaches the software wherein the first function receives program control information comprising application status and detected application faults for each of the M managed characteristic applications, and detected failures regarding the N hosts ([0070] and [0080]).

8. As to claim 19, Bhattal teaches wherein the first function receives application performance data representing each one of the M managed characteristic applications (*see Abstract*).

9. As to claim 20, Bhattal teaches wherein the first function receives application performance data on all applications instantiated by the N hosts including performance data representing each one of the M managed characteristic applications (*see Abstract*).

10. As to claim 21, Bhattal teaches the software wherein the second function which determines the required allocation and reallocation actions need to maintain the Quality of Service (QoS) requirements established for the M managed characteristic application by

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responding to application and host failures by determining if and what recovery actions should be taken; determining if and where to place new copies of one of the M managed characteristic applications or which of the M managed characteristic applications should be shutdown when QoS Manager functions indicate that scale-up or scale-down actions are indicated based on measured application performance and application QoS specifications; determining where new applications should be placed when requested to do so by a program control device; and determining which and how many applications should run based on application system priorities ([0070] and [0080]).

11. As to claim 22, Bhattal teaches the resource management device wherein the managed characteristic application comprises a scalable application ([0070] and [0080]).

12. As to claim 23, Bhattal teaches the resource management device wherein the managed characteristic application comprises a fault tolerant application, where the degree of fault tolerance is selectable by a user ([0070] and [0080]).

13. As to claim 24, Bhattal fails to explicitly teach wherein the managed characteristic application comprises a selectable priority application. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of a selectable priority application because it would increase the functionality of the system if applications can be selected by order of importance.

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14. As to claim 25, Bhattal teaches using applications and using instances of communication channels but fails to explicitly teach the instantiating managed characteristic be of an application. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that there could be applications associated with channels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of applications associated with the channels for instantiating because it will increase the functionality of the channels from the applications performing functions for them.

15. As to claim 26, it is rejected for the same reasons as stated in the rejection of claim 16. In addition, Bhattal fails to explicitly teach monitoring the host and network resources and reporting. However, Du teaches monitoring the host and network resources and reporting (*col. 5, lines 59-67 through col. 6, lines 1-10, col. 8, lines 3-10*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of monitoring the host and network resources and reporting because the system could then diagnose or track the status or "health" which actions then can be taken to maintain or increase the integrity of the system.

16. As to claim 27, Bhattal teaches the software wherein the first function receives system specification information comprises host configuration and capabilities ([0067]).

17. As to claim 28, it is rejected for the same reasons as stated in the rejection of claims 2 and 17.

18. As to claim 29, Bhattal teaches the software wherein the first function receives system specification information comprising path performance requirements regarding communication between at least two of the N hosts ([0006]).

19. As to claim 30, it is rejected for the same reasons as stated in the rejection of claim 18.

20. As to claim 31, Bhattal teaches the software wherein the first function receives historical data regarding statuses, configuration, and loads of the N hosts and link statuses and loads regarding the network ([0006]).

21. As to claim 32, it is rejected for the same reasons as stated in the rejection of claim 19.

22. As to claim 33, it is rejected for the same reasons as stated in the rejection of claim 20.

23. As to claim 34, it is rejected for the same reasons as stated in the rejection of claim 21.

24. As to claim 35, Bhattal teaches the software wherein the third function group makes decisions by one of: based on requests from Program Control, determining where new applications should be started; based on indication of application failure from the fourth function group, determining whether and where the failed application should be restarted; based on

indication of host failure from the fourth function group, determining whether and where the failed application previously instantiated by the failed one of the N hosts should be restarted; based on startup and shutdown dependency resolution requests from the fourth function group, determine whether and where additional applications should to be one of started and shut down prior to starting or shutting down another application; determining whether and where new applications need to be started and/or determine whether and which existing applications need to be shutdown ([0038]).

Bhattal fails to explicitly teach wherein the managed characteristic application comprises a selectable priority application. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of a selectable priority application because it would increase the functionality of the system if applications can be selected by order of importance.

25. As to claim 36, it is rejected for the same reasons as stated in the rejection of claim 35 above. In addition, Bhattal fails to explicitly teach the application being scalable. However, Du teaches a scalable computing system being an advantageous feature (*col. 5, lines 16-34*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of scalable applications to the existing system of Bhattal because of the advantages described above.

26. **Claims 2, 4-8, and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhattal et al. (hereinafter Bhattal) (US 20020064126).**

27. As to claim 2, Bhattal teaches on a host instantiating a managed characteristic, a resource management device generating signals which one of starts up an additional copy of the managed characteristic on one of the host and a second networked host, shuts down and restarts the managed characteristic on the host, and moves the managed characteristic to the second host responsive to first information regarding performance of all applications including the managed characteristic application and second information regarding performance of the host ([0014]-[0016]). Bhattal teaches using applications and using instances of communication channels but fails to explicitly teach the instantiating managed characteristic be of an application. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that there could be applications associated with channels. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of applications associated with the channels for instantiating because it will increase the functionality of the channels from the applications performing functions for them.

28. As to claim 4, Bhattal teaches the resource management device wherein the managed characteristic application comprises a fault tolerant application, where the degree of fault tolerance is selectable by a user ([0070] and [0080]).

29. As to claim 5, it is rejected for the same reasons as stated in the rejection of claim 2. In addition, Bhattal fails to explicitly teach wherein the managed characteristic application comprises a selectable priority application. However, it would have been obvious to one of

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ordinary skill in the art at the time the invention was made to include the feature of a selectable priority application because it would increase the functionality of the system if applications can be selected by order of importance.

30. As to claim 6, Bhattal fails to explicitly teach the resource management device wherein the managed characteristic application further responds to user-initiated control actions.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of user-initiated control actions because more control will be given to the user.

31. As to claim 7, Bhattal teaches the program control device wherein the resource arrangement device generates signals instructing a program control device to modify the configuration of the managed characteristic application ([0038]).

32. As to claim 8, it is rejected for the same reason as stated in the rejection of claim 2. In addition, Bhattal teaches there is a control configuration for the signals for the management device ([0008] and [0036]).

33. As to claim 10, it is rejected for the same reasons as stated in the rejection of claim 4.

34. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 5.

35. As to claim 12, Bhattal teaches the resource management device wherein the resource management device further responds to third information regarding the performance of hardware operatively coupling the networked hosts (*see Abstract*).

36. As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 5.

37. As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 6.

38. As to claim 15, Bhattal teaches the resource management device where the action requests are generated by an operator ([0002]).

39. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhattal et al. (hereinafter Bhattal) (US 20020064126) in view of Du et al. (hereinafter Du) (US 6,041,306).

40. As to claim 3, Bhattal teaches in a distributed environment comprised of hosts instantiating copies of a application, a resource management device generating signals which start up, shutdown or move a selected one of the copies responsive to first information regarding performance of all copies of the application and second information regarding performance of the hosts ([0014]-[0016]). Bhattal fails to explicitly teach the application being scalable.

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However, Du teaches a scalable computing system being an advantageous feature (*col. 5, lines 16-34*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of scalable applications to the existing system of Bhattal because of the advantages described above.


41. As to claim 9, it is rejected for the same reasons as stated in the rejection of claim 3.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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